

**Claims:**

1. A method for controlling transmission power in a radio system having a transmitting end and a receiving end, the method comprising the steps of

- 5           - transmitting a digital signal from the transmitting end to the receiving end,  
          - receiving said digital signal at the receiving end,  
          - monitoring signal quality at the receiving end, and  
          - adjusting the transmission power at the transmission end in  
10 accordance with the monitored signal quality, said monitoring and adjusting being characterized by the further steps of  
          - monitoring pseudo error occurrence at the receiving end,  
          - decreasing the transmission power when the rate of the pseudo errors is below a predetermined threshold, and  
15           - increasing the transmission power when pseudo errors occur so that a predetermined condition is fulfilled.

2. A method as claimed in claim 1, characterized in that the transmission power is increased immediately when a pseudo error is detected.

3. A method as claimed in claim 1, characterized in that the  
20 transmission power is decreased in small steps for a predetermined time period at each step.

4. A method as claimed in claim 2 or 3, characterized by  
          (a) adjusting the transmission power after the set-up of the radio system to a value high enough so that no pseudo errors are detected at the  
25 receiving end,  
          (b) decreasing the transmission power until the first pseudo error is detected,  
          (c) increasing the transmission power in response to the pseudo error detected, and  
30           (d) jumping to phase (b) if no pseudo errors are detected during a predetermined time period after the transmission power has been increased in phase (c).

5. A method as claimed in claim 1, characterized in that the  
35 transmission power is increased by a small predetermined amount when said pseudo errors are detected.

6. A method as claimed in claim 1, characterized by  
- using forward error correction (FEC) in the transmitted signal,  
- decoding the signal at the receiving end by means of a FEC  
decoder, and

5 - interpreting the corrections made by the decoder as pseudo errors.

7. A method as claimed in claim 1, characterized by using at  
the receiving end a demodulator provided with a first set of thresholds for  
making a decision on a received symbol and a second set of thresholds for  
making a decision on whether a pseudo error has occurred.

10 8. A method as claimed in claim 1, characterized by the  
further steps of

- monitoring the rate of actual errors at the receiving end, and  
- increasing the transmission power temporarily to the maximum  
transmission power when a predetermined error rate threshold is exceeded.

15 9. A radio system including

- at a receiving end first means (SMA, SMB, 15a, 15b) for monitoring  
signal quality and for producing a control signal on the basis of the monitored  
signal quality, and

20 - at a transmitting end second means (15a, 15b) for adjusting the  
transmission power in response to said control signal,  
characterized by

said first means being adapted to monitor the occurrence of pseudo  
errors and to produce a control signal indicating when the pseudo errors are  
detected and when the rate of the pseudo errors is below a predetermined  
25 threshold, whereby said second means are responsive to said control signal  
by increasing the transmission power when the pseudo errors are detected  
and by decreasing the transmission power when the rate of the pseudo errors  
is below a predetermined threshold.

30 10. A radio system as claimed in claim 9, characterized in  
that said first means include a FEC decoder (45) for decoding a FEC coded  
signal and for detecting pseudo errors.

35 11. A radio system as claimed in claim 9, characterized in  
that said first means include a demodulator provided with a first set of  
thresholds for making a decision on a received symbol and a second set of  
thresholds for making a decision on whether a pseudo error has occurred.

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